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L3              25 S L1 SSS FUL
L4              25 S L3 AND CAPLUS/LC

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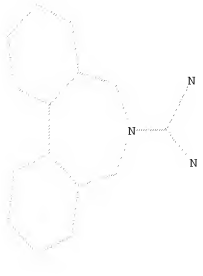


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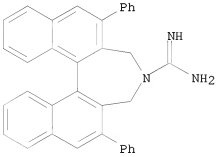
L5 ANSWER 1 OF 13 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2009:845440 CAPLUS
DOCUMENT NUMBER: 151:336783
TITLE: Enantioselective Henry (nitroaldol) reaction catalyzed by axially chiral guanidines
AUTHOR(S): Ube, Hitoshi; Terada, Masahiro
CORPORATE SOURCE: Department of Chemistry, Graduate School of Science, Tohoku University, Aoba-ku, Sendai, 980-8578, Japan
SOURCE: Bioorganic & Medicinal Chemistry Letters (2009), 19(14), 3895-3898
CODEN: BMCLE8; ISSN: 0960-894X
PUBLISHER: Elsevier B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

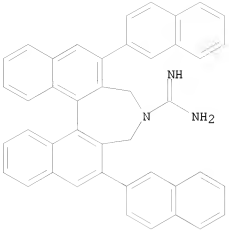
AB The enantioselective activation of nitroalkanes was attempted on the basis of the complexation between chiral guanidinium and nitronate through two hydrogen bonds. The proposed enantioselective activation was applied to the diastereo- and enantioselective Henry (nitroaldol) reaction of nitroalkanes with aldehydes using axially chiral guanidine bases as the catalyst. Optically active nitroaldol products were obtained in acceptable yields with fairly good enantio- and diastereoselectivities at low temperature

IT 862889-17-6 862889-18-7 862889-19-8
862889-20-1 862889-21-2 862889-22-3
862889-23-4 862889-24-5 1186130-42-6
RL: CAT (Catalyst use); USES (Uses)
(asym. synthesis of nitroalcs. via Henry reaction of nitroalkanes with aldehydes in the presence of axially chiral guanidines)

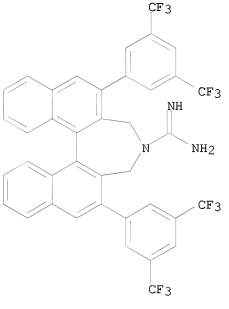
RN 862889-17-6 CAPLUS
CN 4H-Dinaphth[2,1-c:1',2'-e]azepine-4-carboximidamide, 3,5-dihydro-2,6-diphenyl-, (11bR)- (9CI) (CA INDEX NAME)



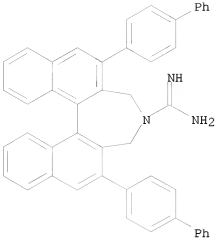
RN 862889-18-7 CAPLUS
CN 4H-Dinaphth[2,1-c:1',2'-e]azepine-4-carboximidamide, 3,5-dihydro-2,6-di-2-naphthalenyl-, (11bR)- (9CI) (CA INDEX NAME)



RN 862889-19-8 CAPLUS
CN 4H-Dinaphth[2,1-c:1',2'-e]azepine-4-carboximidamide, 3,5-dihydro-2,6-bis[3,5-(trifluoromethyl)phenyl]-, (11bR)- (9CI) (CA INDEX NAME)

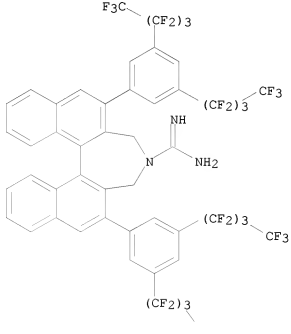


RN 862889-20-1 CAPLUS
CN 4H-Dinaphth[2,1-c:1',2'-e]azepine-4-carboximidamide, 2,6-bis([1,1'-biphenyl]-4-yl)-3,5-dihydro-, (11bR)- (CA INDEX NAME)



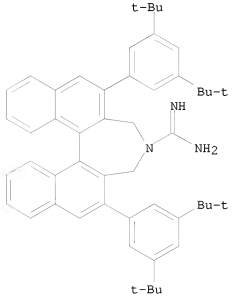
RN 862889-21-2 CAPLUS
CN 4H-Dinaphth[2,1-c:1',2'-e]azepine-4-carboximidamide, 2,6-bis[3,5-bis(nonafluorobutyl)phenyl]-3,5-dihydro-, (11bR)- (9CI) (CA INDEX NAME)

PAGE 1-A

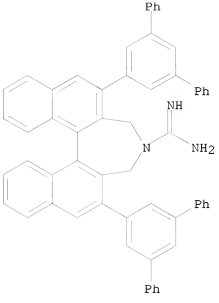


PAGE 2-A

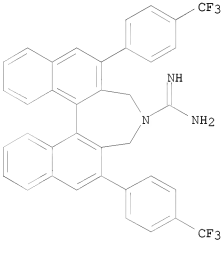
RN 862889-22-3 CAPLUS
CN 4H-Dinaphth[2,1-c:1',2'-e]azepine-4-carboximidamide, 2,6-bis[3,5-bis(1,1-dimethylethyl)phenyl]-3,5-dihydro-, (11bR)- (9CI) (CA INDEX NAME)



RN 862889-23-4 CAPLUS
CN 4H-Dinaphth[2,1-c:1',2'-e]azepine-4-carboximidamide, 3,5-dihydro-2,6-bis([1,1':3',1''-terphenyl]-5'-yl)-, (11bR)- (CA INDEX NAME)



RN 862889-24-5 CAPLUS
CN 4H-Dinaphth[2,1-c:1',2'-e]azepine-4-carboximidamide, 3,5-dihydro-2,6-bis[4-(trifluoromethyl)phenyl]-, (11bR)- (9CI) (CA INDEX NAME)



RN 1186130-42-6 CAPLUS
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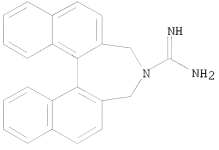
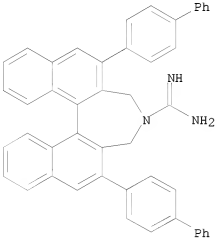
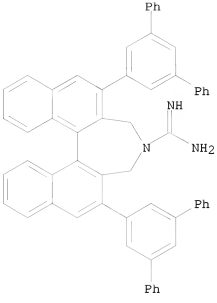


OS.CITING REF COUNT:	1	THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD (1 CITINGS)
REFERENCE COUNT:	56	THERE ARE 56 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 2 OF 13 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2009:844930 CAPLUS
DOCUMENT NUMBER: 151:266892
TITLE: Acid-base dual-functional catalysis by axially chiral guanidine in enantioselective [3+2] cycloaddition of maleate to Schiff bases as a precursor of azomethine ylides
AUTHOR(S): Nakano, Megumi; Terada, Masahiro
CORPORATE SOURCE: Department of Chemistry, Graduate School of Science, Tohoku University, Aoba-ku, Sendai, 980-8578, Japan
SOURCE: Synlett (2009), (10), 1670-1674
CODEN: SYNLES; ISSN: 0936-5214
PUBLISHER: Georg Thieme Verlag
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The enantioselective [3+2] cycloaddn. of maleate with Schiff bases as azomethine ylide precursors was developed using axially chiral guanidine catalysts to provide optically active pyrrolidines. Acid-base dual-functional catalysis by an axially chiral guanidine through double H-bonding interaction is proposed to give the cycloadducts in good yields.
IT 862889-20-1 862889-23-4 921229-45-0
921229-46-1 921229-47-2
RL: CAT (Catalyst use); USES (Uses)
(preparation of pyrrolidines by asym. cycloaddn. of maleate to Schiff bases as azomethine ylide precursors using axially chiral guanidine catalyst)
RN 862889-20-1 CAPLUS
CN 4H-Dinaphth[2,1-c:1',2'-e]azepine-4-carboximidamide, 2,6-bis([1,1'-biphenyl]-4-yl)-3,5-dihydro-, (11bR)- (CA INDEX NAME)

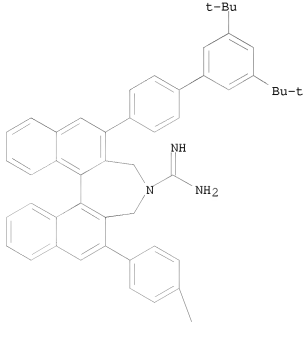


RN 862889-23-4 CAPLUS
CN 4H-Dinaphth[2,1-c:1',2'-e]azepine-4-carboximidamide, 3,5-dihydro-2,6-bis([1,1':3',1''-terphenyl]-5'-yl)-, (11bR)- (CA INDEX NAME)



RN 921229-45-0 CAPLUS
CN 4H-Dinaphth[2,1-c:1',2'-e]azepine-4-carboximidamide, 2,6-bis[3',5'-bis(1,1-dimethylethyl)[1,1'-biphenyl]-4-yl]-3,5-dihydro-, (11bR)- (CA INDEX NAME)

PAGE 1-A



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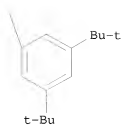
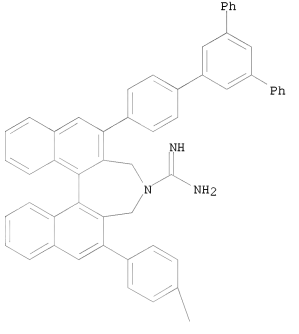


RN 921229-46-1 CAPLUS
CN 4H-Dinaphth[2,1-c:1',2'-e]azepine-4-carboximidamide, 3,5-dihydro-2,6-bis(5'-phenyl[1,1',3',1''-terphenyl]-4-yl)-, (11bR)- (CA INDEX NAME)

PAGE 1-A



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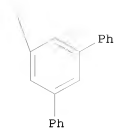
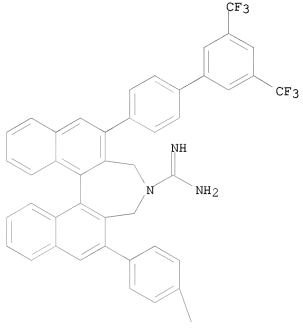


RN 921229-47-2 CAPLUS
CN 4H-Dinaphth[2,1-c:1',2'-e]azepine-4-carboximidamide, 2,6-bis[3',5'-bis(trifluoromethyl)[1,1'-biphenyl]-4-yl]-3,5-dihydro-, (11bR)- (CA INDEX NAME)

PAGE 1-A



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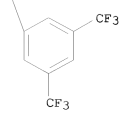


OS.CITING REF COUNT:	3	THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)
REFERENCE COUNT:	71	THERE ARE 71 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

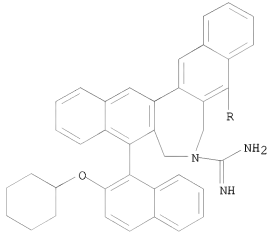
L5 ANSWER 3 OF 13 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2009:527744 CAPLUS
DOCUMENT NUMBER: 151:448018
TITLE: The practical synthesis of double axial chiral guanidines
AUTHOR(S): Guo, Qun-Sheng; Du, Da-Ming
CORPORATE SOURCE: Beijing National Laboratory for Molecular Sciences (BNLMS), Key Laboratory of Bioorganic Chemistry and Molecular Engineering, College of Chemistry and Molecular Engineering, Peking University, Beijing, 100871, Peop. Rep. China
SOURCE: Letters in Organic Chemistry (2009), 6(3), 197-202
CODEN: LOCEC7; ISSN: 1570-1786
PUBLISHER: Bentham Science Publishers Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Two novel double axial chiral guanidines were designed according to the concept of double axial chirality. Practical synthetic procedures from (S)-1,1'-binaphthol have been developed. The title compds. were fully characterized by NMR, MS, IR and elemental anal. or HRMS. The two chiral guanidines can be interesting catalysts for asym. catalysis and preliminary asym. catalytic activity was investigated in Henry reaction and conjugate addition

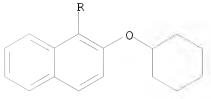
IT 1190368-96-7P
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(synthesis of double axial chiral guanidines based on binaphthol as catalysts for stereoselective Henry and conjugate addition reactions)

RN 1190368-96-7 CAPLUS
CN 7H-Dinaphth[2,3-c:2',3'-e]azepine-7-carboximidamide, 5,9-bis[2-(cyclohexyloxy)-1-naphthalenyl]-6,8-dihydro-, (5S,9S)- (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

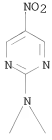
L5 ANSWER 4 OF 13 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2008:1167756 CAPLUS
DOCUMENT NUMBER: 150:190816
TITLE: Stable and Unstable 6,6- and 5,6- Closed and Open Adducts of Fullerene C60
AUTHOR(S): Zverev, V. V.; Kovalenko, V. I.
CORPORATE SOURCE: A.E. Arbuzov Institute of Organic and Physical Chemistry, RAS, Kazan, Russia
SOURCE: Fullerenes, Nanotubes, and Carbon Nanostructures (2008), 16(5-6), 563-566
CODEN: FNCNAR; ISSN: 1536-383X
PUBLISHER: Taylor & Francis, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB DFT/PBE/TZ2P research of total energy of various adducts at variation of 5,6- and 6,6- bond was carried out. On the basis of the anal. of local min., the conclusion on structures stability and instability was drawn. Acyclic and cyclic derivs. containing 4-6-membered rings are established to form the closed adducts only. Thus the [6,6]-closed structures are 15-18 kcal/mol more stable than [5,6]-closed. The [6,6]-closed adducts with strained 3-membered cycles and their [5,6]-open isomers are found to be stable. The anal. of strain energy is accomplished.

IT 574002-41-8
RL: PRP (Properties)
(stable and unstable 6,6- and 5,6- closed and open adducts of fullerene C60)

RN 574002-41-8 CAPLUS
CN 1'H-[5,6]Fullereno-C60-Ih-[1,9-b]azirine, 1'-(5-nitro-2-pyrimidinyl)- (CA INDEX NAME)

PAGE 1-A



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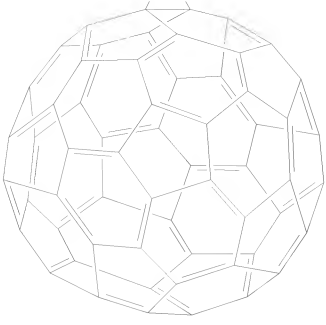


REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

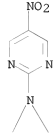
L5 ANSWER 5 OF 13 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2007:1069375 CAPLUS
DOCUMENT NUMBER: 148:33366
TITLE: Structure and relative energies of regioisomers and valence isomers of C60 adducts. HF and DFT study
AUTHOR(S): Zverev, Vladislav V.; Kovalenko, Valeriy I.; Romanova, Irina P.; Sinyashin, Oleg G.
CORPORATE SOURCE: A.E. Arbuzov Institute of Organic and Physical Chemistry, Kazan Research Centre, Russian Academy of Sciences, Kazan, 420088, Russia
SOURCE: International Journal of Quantum Chemistry (2007), 107(13), 2442-2453
CODEN: IJQCB2; ISSN: 0020-7608
PUBLISHER: John Wiley & Sons, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Fullerene C60 and N-bridged C60NH regioisomeres are investigated by HF and DFT methods with BLYP, B3LYP and PBE functionals at the 6-31G**, 6-311G** and TZ2P levels. Method DFT/PBE/TZ2P, providing the good compliance with exptl. results, is chosen. Cross-sections of potential energy surface of adducts at a variation of 5,6- or 6,6- bonds lengths are investigated. It is shown, that C60C2H4NH and C60H2 are characterized by local min. for [5,6]-closed forms, whereas local min. for [5,6]-open forms are absent. Absence of stable conformations of the [5,6]-closed forms of methanofullerenes and aziridinofullerenes is a consequence of strain energy in three-membered rings. It is shown that relative stability of the regioisomers depends on the lengths of single or double bonds of monoadducts participating in reactions. The coordinated change of relative energies of the open and closed isomers N-bridged mono-(C60NR 1-7) and bis-adducts (C60(NR)2 8-14) is revealed. The [6,6]-closed form is more stable for compds. C60NR (2,3) and cis-1-C60(NR)2 (9,10) (R = Me, Ph), while [5,6]-open and cis-1 [6,6]-open forms are more stable for compds. C60NR (6,7) and cis-1-C60(NR)2 (13,14) (R = COOMe, R* - nitropyrimidine), what has been confirmed by experiment The factors defining relative isomer stability are investigated.

IT 574002-41-8 574002-44-1 944323-06-2
959473-01-9
RL: PRP (Properties)
(structure and relative energies of regioisomers and valence isomers of C60 adducts)

RN 574002-41-8 CAPLUS
CN 1'H-[5,6]Fullereno-C60-Ih-[1,9-b]azirine, 1'-(5-nitro-2-pyrimidinyl)- (CA INDEX NAME)

PAGE 1-A



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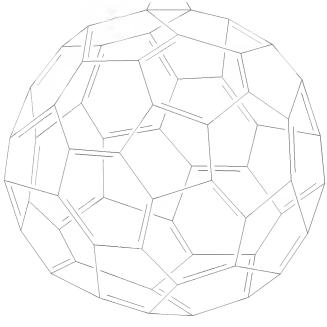
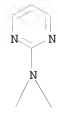


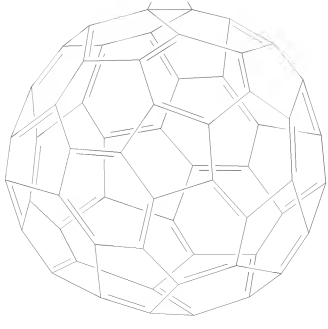
RN 574002-44-1 CAPLUS
CN 1'H-[5,6]Fullereno-C60-Ih-[1,9-b]azirine, 1'-(2-pyrimidinyl)- (CA INDEX

NAME)

PAGE 1-A

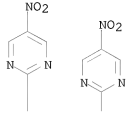


PAGE 2-A



RN 944323-06-2 CAPLUS
CN 9a,12a-Diaza-1,9(9a):2,12(12a)-dihomo[5,6]fullerene-C60-Ih,
9a,12a-bis(5-methyl-2-pyrimidinyl)- (CA INDEX NAME)

PAGE 1-A



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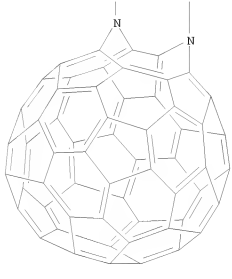
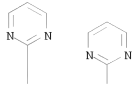


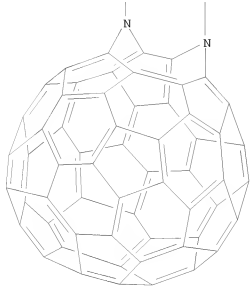
RN 959473-01-9 CAPLUS

CN 9a,12a-Diaza-1,9(9a):2,12(12a)-dihomo[5,6]fullerene-C60-Ih,
9a,12a-di-2-pyrimidinyl- (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

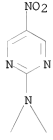


OS.CITING REF COUNT: 1 THERE ARE 1 CAPLUS RECORDS THAT CITE THIS RECORD

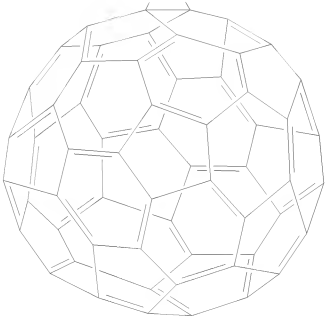
(1 CITINGS)
REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 6 OF 13 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2007:110756 CAPLUS
DOCUMENT NUMBER: 147:188674
TITLE: Synthesis and unusual electrochemical properties of nitropyrimidine-substituted diazadihomo(C60-Ih)[6,6]fullerene
AUTHOR(S): Romanova, Irina P.; Yusupova, Gulshat G.; Larionova, Olga A.; Nafikova, Adilya A.; Yakhvarov, Dmitry G.; Zverev, Vladislav V.; Efremov, Yury Ya.; Sinyashin, Oleg G.
CORPORATE SOURCE: A. E. Arbuzov Institute of Organic and Physical Chemistry, Kazan Scientific Centre of the Russian Academy of Sciences, Kazan, 420088, Russia
SOURCE: Mendeleev Communications (2006), (6), 309-311
CODEN: MENCEX; ISSN: 0959-9436
PUBLISHER: Russian Academy of Sciences
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 147:188674
AB A bisadduct regioisomer with two open transannular [6,6]-bonds was synthesized by the cycloaddn. reaction of C60 and 2-azido-5-nitropyrimidine.
IT 574002-41-8
RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(failed cycloaddn. reaction with 2-azido-5-nitropyrimidine and electroredn.; synthesis of nitropyrimidine-substituted diazadihomo(C60-Ih)[6,6]fullerene by cycloaddn. of 2-azido-5-nitropyrimidine with C60 and its electroredn.)
RN 574002-41-8 CAPLUS
CN 1'H-[5,6]Fullereno-C60-Ih-[1,9-b]azirine, 1'-(5-nitro-2-pyrimidinyl)- (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



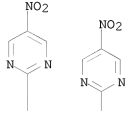
IT 944323-06-2P
RL: PEP (Physical, engineering or chemical process); PRP (Properties); RCT

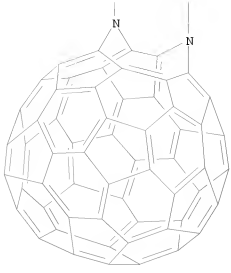
(Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(preparation, structural characterization, and electroredn.; synthesis of nitropyrimidine-substituted diazadihomo(C60-Ih)[6,6]fullerene by cycloaddn. of 2-azido-5-nitropyrimidine with C60 and its electroredn.)

RN 944323-06-2 CAPLUS

CN 9a,12a-Diaza-1,9(9a):2,12(12a)-dihomo[5,6]fullerene-C60-Ih, 9a,12a-bis(5-methyl-2-pyrimidinyl)- (CA INDEX NAME)

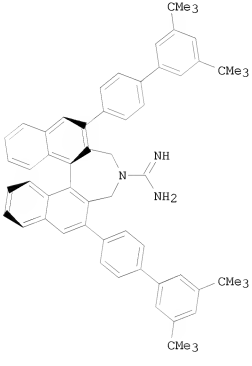
PAGE 1-A





OS.CITING REF COUNT:	3	THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)
REFERENCE COUNT:	23	THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 7 OF 13 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2006:1250291 CAPLUS
DOCUMENT NUMBER: 146:184341
TITLE: Axially Chiral Guanidine as Highly Active and Enantioselective Catalyst for Electrophilic Amination of Unsymmetrically Substituted 1,3-Dicarbonyl Compounds
AUTHOR(S): Terada, Masahiro; Nakano, Megumi; Ube, Hitoshi
CORPORATE SOURCE: Department of Chemistry, Graduate School of Science, Tohoku University, Sendai, 980-8578, Japan
SOURCE: Journal of the American Chemical Society (2006), 128(50), 16044-16045
CODEN: JACSAT; ISSN: 0002-7863
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 146:184341
GI



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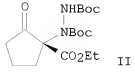


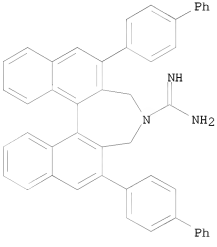
II

AB Nonracemic axially chiral guanidines such as dinaphthoazepineamidine I are prepared; I is an effective catalyst for the enantioselective addition of β-oxoesters and a 1,3-diketone to di-tert-Bu azodicarboxylates to yield α-hydrazino-β-oxoesters and an α-hydrazino-β-diketone in 54-99% yields and in 15-98% ee (all but three of the twelve examples give products in 83-98% ee). For example, stirring Et 2-oxocyclopentanecarboxylate and di(tert-butyl)

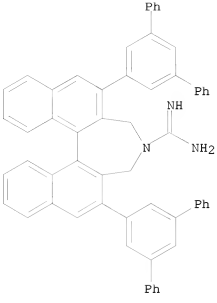
azodicarboxylate in THF in the presence of 0.05 mol% I for 4 h at -60° provides II [Boc = Me3COC(:O)] in quant. yield and in 97% ee. Dinaphthoazepineamidine catalysts with other substituted Ph groups at the 3,3'-positions give addition/amination products in lower rates and enantioselectivities. I is prepared in six steps from (R)-2,2'-dimethyl-3,3'-binaphthalenediol ditriflate, 4-methoxyphenylboronic acid, and 3,5-di(tert-butyl)phenylboronic acid. The absolute stereochemistries of three of the products are determined by their conversions to known oxazolidinones.

IT 862889-20-1P 862889-23-4P 921229-46-1P
921229-47-2P
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(dinaphthoazepineamidine prepared and tried as a catalyst for the enantioselective addition of Et 2-oxocyclopentanecarboxylate to di(tert-butyl) azodicarboxylate to yield a nonracemic α-hydrazino-β-ketoester)

RN 862889-20-1 CAPLUS
CN 4H-Dinaphth[2,1-c:1',2'-e]azepine-4-carboximidamide, 2,6-bis([1,1'-biphenyl]-4-yl)-3,5-dihydro-, (11bR)- (CA INDEX NAME)

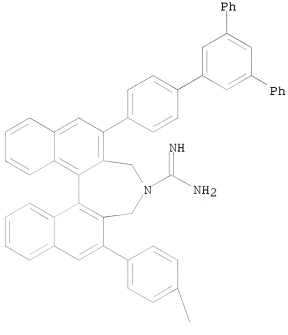


RN 862889-23-4 CAPLUS
CN 4H-Dinaphth[2,1-c:1',2'-e]azepine-4-carboximidamide, 3,5-dihydro-2,6-bis([1,1':3',1''-terphenyl]-5'-yl)-, (11bR)- (CA INDEX NAME)



RN 921229-46-1 CAPLUS
CN 4H-Dinaphth[2,1-c:1',2'-e]azepine-4-carboximidamide, 3,5-dihydro-2,6-bis(5'-phenyl[1,1',3',1''-terphenyl]-4-yl)-, (11bR)- (CA INDEX NAME)

PAGE 1-A



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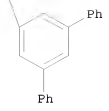
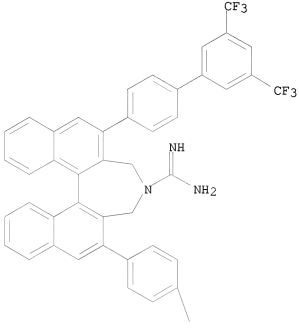


RN 921229-47-2 CAPLUS
CN 4H-Dinaphth[2,1-c:1',2'-e]azepine-4-carboximidamide, 2,6-bis[3',5'-bis(trifluoromethyl)[1,1'-biphenyl]-4-yl]-3,5-dihydro-, (11bR)- (CA INDEX NAME)

PAGE 1-A



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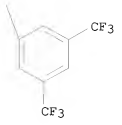
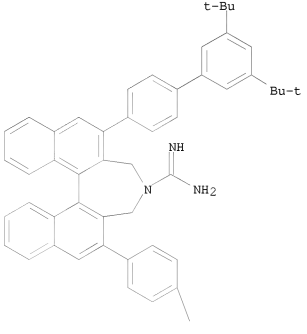


IT 921229-45-0P
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(preparation of a dinaphthoazepineamidine and its use as a catalyst for the enantioselective addition of 1,3-dicarbonyl compds. to azodicarboxylates to yield α-hydrazino-β-oxoesters and an α-hydrazino-β-diketone)

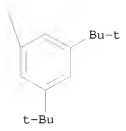
RN 921229-45-0 CAPLUS

CN 4H-Dinaphth[2,1-c:1',2'-e]azepine-4-carboximidamide, 2,6-bis[3',5'-bis(1,1-dimethylethyl)[1,1'-biphenyl]-4-yl]-3,5-dihydro-, (11bR)- (CA INDEX NAME)

PAGE 1-A



PAGE 2-A

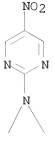


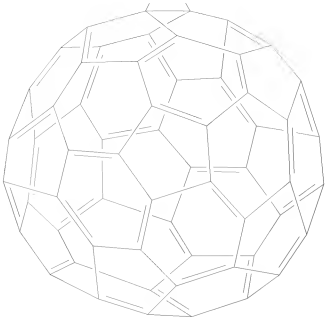
OS.CITING REF COUNT: 60 THERE ARE 60 CAPLUS RECORDS THAT CITE THIS RECORD (61 CITINGS)

REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 8 OF 13 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2006:796909 CAPLUS
DOCUMENT NUMBER: 147:166276
TITLE: Synthesis, electrochemical properties, and thermal transformations of 1-(5-nitro-2-pyrimidinyl)[60]fullereno[1,2-b]aziridine
AUTHOR(S): Romanova, I. P.; Yusupova, G. G.; Larionova, O. A.; Balandina, A. A.; Latypov, Sh. K.; Zverev, V. V.; Yakhvarov, D. G.; Rusinov, G. L.; Sinyashin, O. G.
CORPORATE SOURCE: A. E. Arbuzov Institute of Organic and Physical Chemistry, Kazan Research Center, Russian Academy of Sciences, Kazan, 420088, Russia
SOURCE: Russian Chemical Bulletin (2006), 55(3), 502-506
CODEN: RCBUEY; ISSN: 1066-5285
PUBLISHER: Springer
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 147:166276
AB The reaction of fullerene C60 with 2-azido-5-nitropyrimidine afforded 1-(5-nitro-2-pyrimidinyl)[60]fullereno[1,2-b]aziridine, whose electrochem. reduction proceeds more easily than the reduction of non-modified C60.
IT 574002-41-8P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation of [(nitro)pyrimidinyl]fullereno[1,2-b]aziridine derivs. and study of their electrochem. properties and thermal transformation)
RN 574002-41-8 CAPLUS
CN 1'H-[5,6]Fullereno-C60-Ih-[1,9-b]azirine, 1'-(5-nitro-2-pyrimidinyl)- (CA INDEX NAME)

PAGE 1-A





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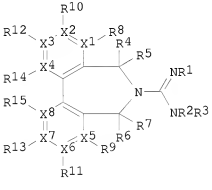
L5 ANSWER 9 OF 13 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2005:902859 CAPLUS
DOCUMENT NUMBER: 143:229737
TITLE: Preparation of optically active bi-aryl guanidine compounds as catalysts for asymmetric reactions
INVENTOR(S): Terada, Masahiro; Ube, Hitoshi; Yokoyama, Shigeko; Shimizu, Hideo
PATENT ASSIGNEE(S): Takasago International Corporation, Japan
SOURCE: PCT Int. Appl., 60 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005077908	A1	20050825	WO 2005-JP1943	20050209
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
US 20080154036	A1	20080626	US 2006-589814	20060921
PRIORITY APPLN. INFO.:			JP 2004-41181 A	20040218
			WO 2005-JP1943 W	20050209

ASSIGNMENT HISTORY FOR US PATENT AVAILABLE IN LSUS DISPLAY FORMAT
OTHER SOURCE(S): MARPAT 143:229737
GI



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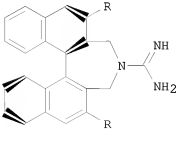


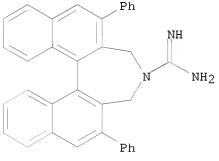
II

AB Guanidine compds. which have a bi-aryl skeleton represented by the following general formula (I) [wherein R1-R3 = H, each (un)substituted hydrocarbon or heterocyclic group; R4, R15 = H, HO, CO2H, acyl, each (un)substituted hydrocarbon, heterocyclic, alkoxy, aryloxy,

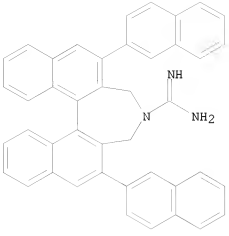
alkoxycarbonyl, aryloxycarbonyl, carbamoyl, alkylthiocarbonyl, arylthiocarbonyl, alkylthio, arylthio, or amino group, or substituted silyl group, or in any combination of R1 to R15, these substituents may together bind with each other to form a ring; X1-X8 = carbon or nitrogen atom, with the proviso that each of X1 to X8 has no substituent when it is nitrogen] are prepared The above guanidine compds. are useful as catalysts for a variety of asym. reactions such as asym. nucleophilic addition reaction, asym. Michael addition reaction, asym. epoxidn., and asym. nitro aldol reaction (Henry reaction). Thus, 0.48 g guanidine hydrochloride was neutralized by Amberlite IRA-400 (OH-) and eluted out by ethanol to give ethanol solution of guanidine (5 mL) which was added to a solution of 0.3 g (R)-3,3'-diphenyl-2,2'-bis(bromomethyl)-1,1'-binaphthyl in 5 mL THF. The resulting mixture was heated at 50° and treated with 1 M aqueous HCl solution after the binaphthyl derivative disappeared on TLC to give, after workup and silica gel chromatog., 80% 4,5-dihydro-3H-dinaphth[2,1-c:1',2'-e]azepine-4-carboxamidine derivative (II) (R = Ph). A mixture of guanidine compound II [R = 3,5-bis(trifluoromethyl)phenyl] (7.6 mg), 1 mL THF, and 20.3 μL was cooled to -40°, treated dropwise with 108 μL nitromethane, and stirred 23 h, and quenched by adding 1 M HCl/MeOH solution to give, after workup and silica gel chromatog., 95% (S)-2-nitro-1-phenylethanol (46% ee) (asym. nitro aldol reaction).

IT 862889-17-6P 862889-18-7P 862889-19-8P
862889-20-1P 862889-21-2P 862889-22-3P
862889-23-4P 862889-24-5P 862889-25-6P
862889-26-7P 862889-27-8P
RL: CAT (Catalyst use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(preparation of optically active guanidine compds. as catalysts for asym. reactions)

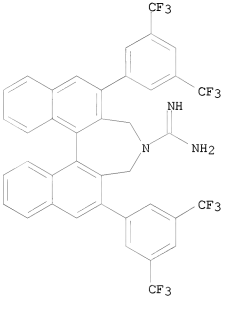
RN 862889-17-6 CAPLUS
CN 4H-Dinaphth[2,1-c:1',2'-e]azepine-4-carboximidamide, 3,5-dihydro-2,6-diphenyl-, (11bR)- (9CI) (CA INDEX NAME)



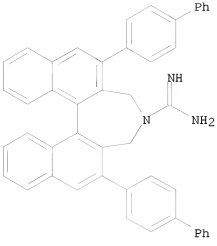
RN 862889-18-7 CAPLUS
CN 4H-Dinaphth[2,1-c:1',2'-e]azepine-4-carboximidamide, 3,5-dihydro-2,6-di-2-naphthalenyl-, (11bR)- (9CI) (CA INDEX NAME)



RN 862889-19-8 CAPLUS
CN 4H-Dinaphth[2,1-c:1',2'-e]azepine-4-carboximidamide, 3,5-dihydro-2,6-bis[3,5-(trifluoromethyl)phenyl]-, (11bR)- (9CI) (CA INDEX NAME)



RN 862889-20-1 CAPLUS
CN 4H-Dinaphth[2,1-c:1',2'-e]azepine-4-carboximidamide, 2,6-bis([1,1'-biphenyl]-4-yl)-3,5-dihydro-, (11bR)- (CA INDEX NAME)



RN 862889-21-2 CAPLUS
CN 4H-Dinaphth[2,1-c:1',2'-e]azepine-4-carboximidamide, 2,6-bis[3,5-bis(nonafluorobutyl)phenyl]-3,5-dihydro-, (11bR)- (9CI) (CA INDEX NAME)

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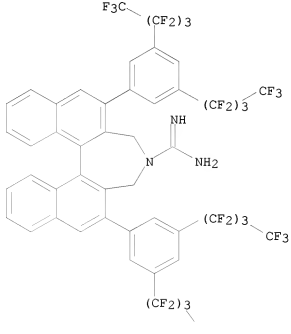
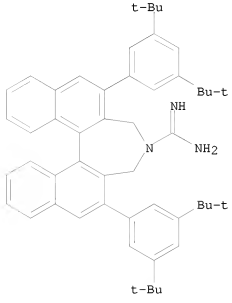
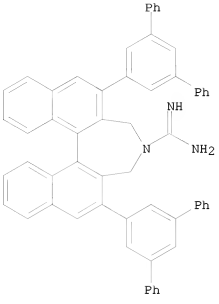


PAGE 2-A

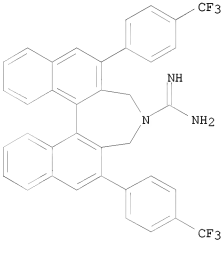
RN 862889-22-3 CAPLUS
CN 4H-Dinaphth[2,1-c:1',2'-e]azepine-4-carboximidamide, 2,6-bis[3,5-bis(1,1-dimethylethyl)phenyl]-3,5-dihydro-, (11bR)- (9CI) (CA INDEX NAME)



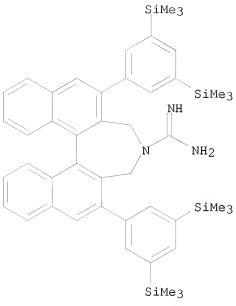
RN 862889-23-4 CAPLUS
CN 4H-Dinaphth[2,1-c:1',2'-e]azepine-4-carboximidamide, 3,5-dihydro-2,6-bis([1,1':3',1''-terphenyl]-5'-yl)-, (11bR)- (CA INDEX NAME)



RN 862889-24-5 CAPLUS
CN 4H-Dinaphth[2,1-c:1',2'-e]azepine-4-carboximidamide, 3,5-dihydro-2,6-bis[4-(trifluoromethyl)phenyl]-, (11bR)- (9CI) (CA INDEX NAME)



RN 862889-25-6 CAPLUS
CN 4H-Dinaphth[2,1-c:1',2'-e]azepine-4-carboximidamide, 2,6-bis[3,5-bis(trimethylsilyl)phenyl]-3,5-dihydro-, (11bR)- (9CI) (CA INDEX NAME)



RN 862889-26-7 CAPLUS
CN 4H-Dinaphth[2,1-c:1',2'-e]azepine-4-carboximidamide, 3,5-dihydro-2,6-bis[3,3'',5,5''-tetrakis(trifluoromethyl)[1,1':3',1''-terphenyl]-5'-yl]-, (11bR)- (9CI) (CA INDEX NAME)

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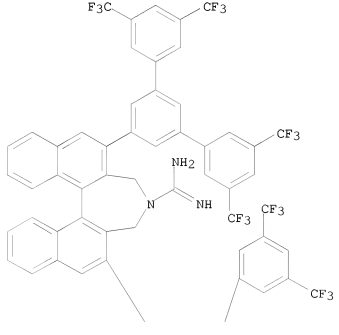

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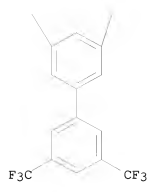

RN 862889-27-8 CAPLUS
CN 4H-Dinaphth[2,1-c:1',2'-e]azepine-4-carboximidamide, 2,6-bis(3,3'',4,4'',5,5''-hexafluoro[1,1':3',1''-terphenyl]-5'-yl)-3,5-dihydro-, (11bR)- (9CI) (CA INDEX NAME)

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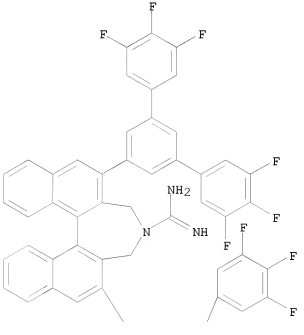

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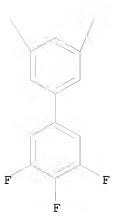

OS.CITING REF COUNT:	5	THERE ARE 5 CAPLUS RECORDS THAT CITE THIS RECORD (5 CITINGS)
REFERENCE COUNT:	23	THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 10 OF 13 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2004:30561 CAPLUS
DOCUMENT NUMBER: 141:225438
TITLE: Reaction of fullerene C60 with 2-azido-4,6-diphenylpyrimidine
AUTHOR(S): Romanova, I. P.; Yusupova, G. G.; Yakhvarov, D. G.; Larionova, O. A.; Mochul skaya, N. N.; Sidorova, L. P.; Charushin, V. N.; Zverev, V. V.; Sinyashin, O. G.
CORPORATE SOURCE: A. E. Arbuzov Institute of Organic and Physical Chemistry, Kazan Research Center of the Russian Academy of Sciences, Kazan, 420088, Russia
SOURCE: Russian Chemical Bulletin (Translation of Izvestiya Akademii Nauk, Seriya Khimicheskaya) (2003), 52(10), 2171-2174
CODEN: RCBUEY; ISSN: 1066-5285
PUBLISHER: Kluwer Academic/Consultants Bureau
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 141:225438

AB The first representative of the pyrimidine-substituted [60]fullereno[1,2-b]aziridines was synthesized by the reaction of fullerene C60 with 2-azido-4,6-diphenylpyrimidine. 2-(Azahomo[60]fullereno)-4,6-diphenylpyrimidine was found to be formed as a byproduct. The electrochem. and MO properties of the adducts were studied.

IT 745794-90-5P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation of substituted fullerenoaziridines via reaction of fullerene C60 with azidodiphenylpyrimidine and their electrochem. and MO properties)

RN 745794-90-5 CAPLUS
CN 1'H-[5,6]Fullereno-C60-Ih-[1,9-b]azirine, 1'-(4,6-diphenyl-2-pyrimidinyl)- (9CI) (CA INDEX NAME)

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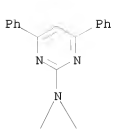

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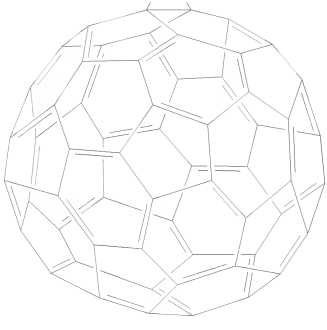

REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 2003:125843 CAPLUS
DOCUMENT NUMBER: 139:164691
TITLE: Reactions of [60]fullerene with 2-azidopyrimidines
AUTHOR(S): Romanova, I. P.; Kalinin, V. V.; Nafikova, A. A.; Yakhvarov, D. G.; Zverev, V. V.; Kovalenko, V. I.; Rusinov, G. L.; Plekhanov, P. V.; Charushin, V. N.; Sinyashin, O. G.
CORPORATE SOURCE: A. E. Arbuzov Institute of Organic and Physical Chemistry, Kazan Research Center of the Russian Academy of Sciences, Kazan, 420088, Russia
SOURCE: Russian Chemical Bulletin (Translation of Izvestiya Akademii Nauk, Seriya Khimicheskaya) (2003), 52(1), 173-178
CODEN: RCBUEY; ISSN: 1066-5285
PUBLISHER: Kluwer Academic/Consultants Bureau
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 139:164691
AB The reaction of [60]fullerene with 2-azido-5-nitropyrimidine or 2-azidopyrimidine affords fullerenoimidazopyrimidines, whose electron affinity is higher than that of non-modified C60. Formation enthalpy, relative energy, electron affinity, reduction potential of these adducts thus prepared were determined through the AM1 (MO) and PM3 (MO) methods and obtained from the first wave potentials of the electrochem. reduction of fullerene-C60 and its derivs.
IT 574002-44-1
RL: PRP (Properties)
(reaction of [60]fullerene with 2-azidopyrimidines)
RN 574002-44-1 CAPLUS
CN 1'H-[5,6]Fullereno-C60-Ih-[1,9-b]azirine, 1'-(2-pyrimidinyl)- (CA INDEX NAME)

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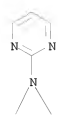

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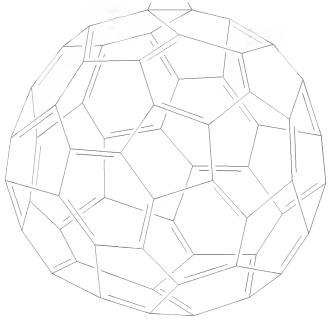

IT 574002-41-8P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(reaction of [60]fullerene with 2-azidopyrimidines)
RN 574002-41-8 CAPLUS
CN 1'H-[5,6]Fullereno-C60-Ih-[1,9-b]azirine, 1'-(5-nitro-2-pyrimidinyl)- (CA INDEX NAME)

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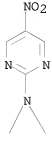
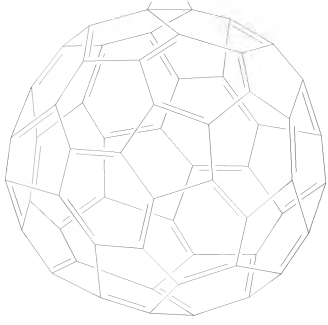


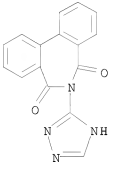


OS.CITING REF COUNT:	7	THERE ARE 7 CAPLUS RECORDS THAT CITE THIS RECORD (7 CITINGS)
REFERENCE COUNT:	14	THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

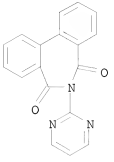
L5 ANSWER 12 OF 13 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1990:7348 CAPLUS
DOCUMENT NUMBER: 112:7348
ORIGINAL REFERENCE NO.: 112:1439a,1442a
TITLE: Synthesis and biological activity of dibenz[c,e]azepines
AUTHOR(S): Aboul-Enein, Hassan Y.; Ibrahim, Said E.; Khalifa, M.
CORPORATE SOURCE: Coll. Pharm., King Saud Univ., Riyadh, 11451, Saudi Arabia
SOURCE: Drug Design and Delivery (1988), 4(1), 27-33
CODEN: DDDEEJ; ISSN: 0884-2884
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Synthesis and pharmacol. screening of 68 dibenz[c,e]azepines are described. All were inactive as antidepressant agents, but two compds. showed good anticonvulsant activity. The structure-activity relationships of this class of compds. are discussed.

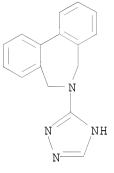
IT 124214-32-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and hydride reduction of, dibenzazepine by)
RN 124214-32-0 CAPLUS
CN 5H-Dibenz[c,e]azepine-5,7(6H)-dione, 6-(1H-1,2,4-triazol-5-yl)- (CA INDEX NAME)



IT 124214-29-5P 124214-50-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 124214-29-5 CAPLUS
CN 5H-Dibenz[c,e]azepine-5,7(6H)-dione, 6-(2-pyrimidinyl)- (CA INDEX NAME)

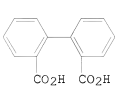


RN 124214-50-2 CAPLUS
CN 5H-Dibenz[c,e]azepine, 6,7-dihydro-6-(1H-1,2,4-triazol-5-yl)- (CA INDEX NAME)



OS.CITING REF COUNT: 3 THERE ARE 3 CAPLUS RECORDS THAT CITE THIS RECORD (3 CITINGS)

L5 ANSWER 13 OF 13 CAPLUS COPYRIGHT 2009 ACS on STN
ACCESSION NUMBER: 1983:125269 CAPLUS
DOCUMENT NUMBER: 98:125269
ORIGINAL REFERENCE NO.: 98:19071a,19074a
TITLE: A carbon-13 NMR assignment study of certain 6-substituted dibenz[c,e]azepine-5,7-dione
AUTHOR(S): Ibrahim, Said E.; Aboul-Enein, Hassan Y.; Khalifa, M.
CORPORATE SOURCE: Coll. Pharm., King Saud Univ., Riyadh, Saudi Arabia
SOURCE: Spectroscopy Letters (1982), 15(7), 575-81
CODEN: SPLEBX; ISSN: 0038-7010
DOCUMENT TYPE: Journal
LANGUAGE: English
GI



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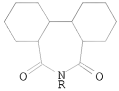

II

AB The natural abundance 13C NMR of I and II (R = m-CF3C6H4, 2-pyridyl, morpholino, 1,2,4-triazol-3-yl) are observed using the Fourier transform technique. The 13C chemical shifts are assigned on the basis of chemical shift theory, the observed signal multiplicity in the single frequency off-resonance decoupled spectra, and comparison with the chemical shifts of the model compds.
IT 84679-66-3
RL: PRP (Properties)
(carbon-13 NMR of)
RN 84679-66-3 CAPLUS
CN 5H-Dibenz[c,e]azepine-5,7(6H)-dione, 6-(3H-1,2,4-triazol-3-yl)- (CA INDEX NAME)